

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: NEO-RAY

Report Number: P331906

Luminaire Tested: **S123DIP-S340D1195U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

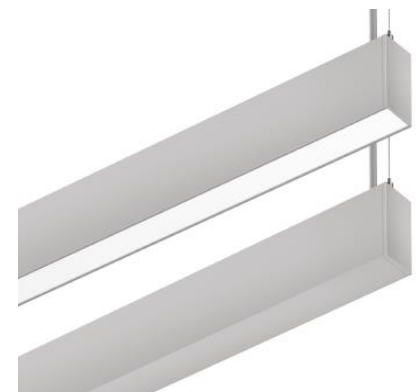
**Test Information**

Test Method: LM-79-08  
Report Number: P331906  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1195U835-4F0-1E-UDD-D4  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5760.0 lumens  
Efficiency: N/A  
Efficacy: 136.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

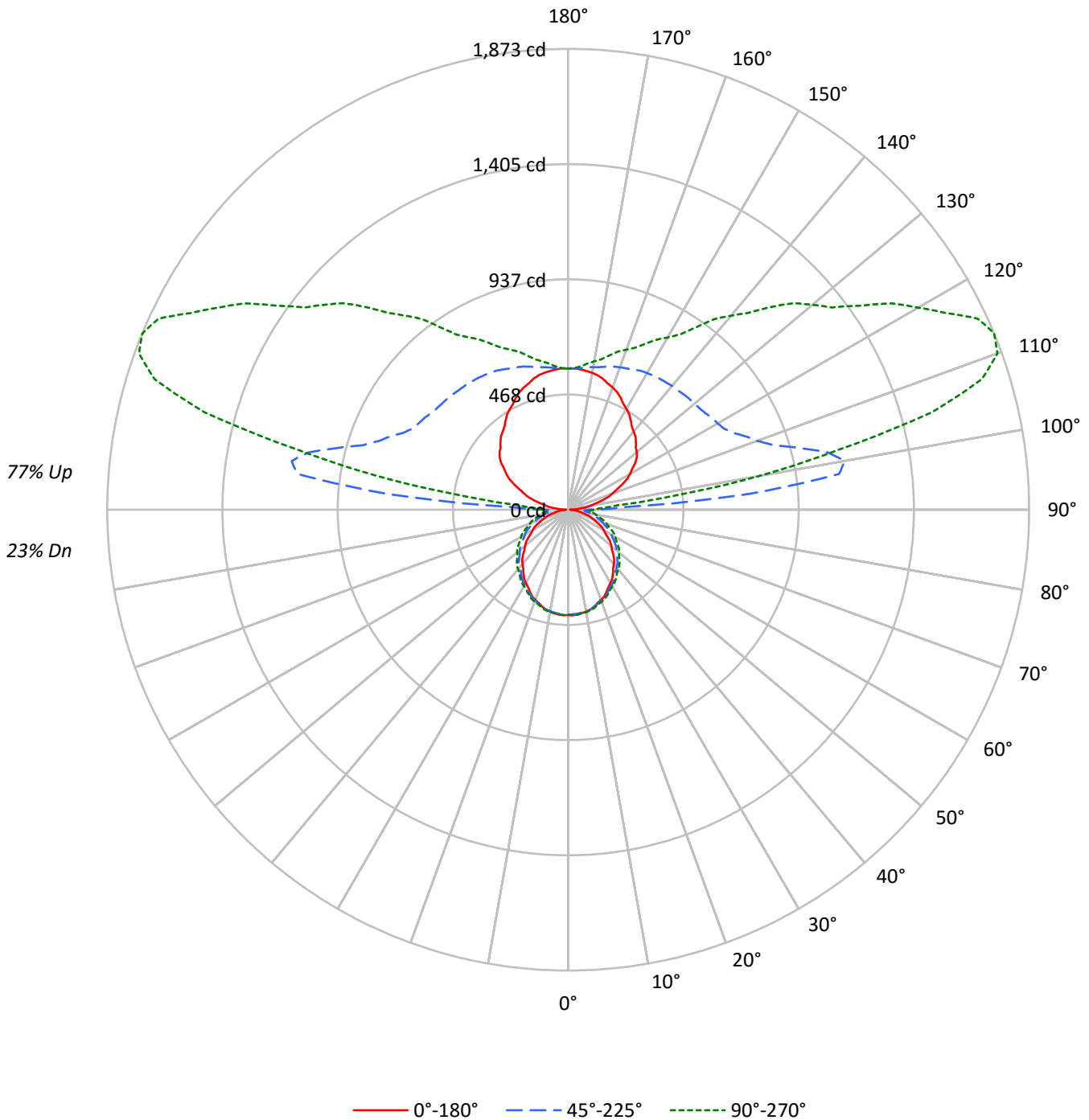
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

### Luminous Intensity Polar Plot





TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20										
RC	80									70									50									30									10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0														
RCR																																						
0	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	23																				
1	91	87	83	79	81	77	74	71	59	57	55	42	41	40	27	26	25	18																				
2	83	76	69	64	73	67	62	58	51	48	45	37	35	33	23	22	21	15																				
3	75	66	59	53	67	59	53	48	45	41	37	32	30	27	20	19	18	12																				
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	18	16	15	11																				
5	63	52	44	38	56	46	39	34	35	31	27	26	22	20	16	14	13	9																				
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	11	8																				
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	13	11	10	7																				
8	49	37	30	25	44	33	27	22	26	21	18	19	16	13	12	10	9	6																				
9	46	34	27	22	40	30	24	20	24	19	16	17	14	12	11	9	8	6																				
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	10	9	7	5																				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.5	0.7
10°-20°	115.6	2.0
20°-30°	172.9	3.0
30°-40°	206.5	3.6
40°-50°	216.0	3.8
50°-60°	202.7	3.5
60°-70°	169.3	2.9
70°-80°	121.1	2.1
80°-90°	76.7	1.3
90°-100°	364.7	6.3
100°-110°	937.8	16.3
110°-120°	912.0	15.8
120°-130°	722.4	12.5
130°-140°	565.2	9.8
140°-150°	418.8	7.3
150°-160°	291.1	5.1
160°-170°	171.0	3.0
170°-180°	55.6	1.0
0°-30°	329.0	5.7
0°-40°	535.5	9.3
0°-60°	954.2	16.6
0°-90°	1321.3	22.9
90°-120°	2214.5	38.4
90°-150°	3920.9	68.1
90°-180°	4439.0	77.1
0°-180°	5760.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	8	43	82	100	107	7
95°	45	152	735	261	200	47
105°	138	215	969	1681	1530	147
115°	240	305	739	1602	1837	238
125°	332	393	682	1233	1445	295
135°	389	464	663	1009	1165	300
145°	443	507	650	820	904	278
155°	503	543	629	715	745	231
165°	550	565	602	638	650	155
175°	573	573	577	586	584	54
180°	574	574	574	574	574	



TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.9	18.5	24.1	30.0	35.6	41.3	47.2	53.2	59.2	65.2	68.5
90°	8.4	15.8	23.2	31.7	39.1	46.6	55.4	64.2	72.9	81.7	84.1
92.5°	20.1	31.6	46.0	59.6	74.0	96.0	131.7	186.8	241.1	228.4	187.9
95°	44.6	52.2	69.0	92.8	127.0	176.9	280.7	458.9	654.5	735.1	608.2
97.5°	72.0	76.8	90.4	111.2	144.6	197.9	297.1	497.1	819.6	1110.5	1188.2
100°	90.2	94.6	106.1	125.7	156.9	206.2	292.3	469.0	779.4	1140.8	1372.7
102.5°	109.3	114.4	124.6	142.9	171.0	216.4	294.0	444.6	721.4	1078.2	1379.7
105°	138.5	144.5	153.9	170.4	194.9	234.4	301.6	425.7	649.8	969.1	1305.4
107.5°	169.1	174.7	183.5	199.4	222.1	258.8	318.1	421.7	603.0	872.4	1177.9
110°	191.0	196.4	204.0	218.7	240.3	275.8	332.3	424.7	584.5	817.6	1097.9



TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	211.5	216.5	223.8	238.1	259.4	293.8	346.3	432.1	573.2	780.0	1027.8
115°	240.5	246.4	254.6	267.5	288.5	322.3	370.2	444.8	567.0	739.2	942.7
117.5°	269.9	276.0	282.6	294.1	316.9	348.1	395.3	462.0	566.1	713.7	889.9
120°	290.0	294.0	300.3	312.5	335.1	366.1	411.3	475.2	568.0	701.6	862.0
122.5°	307.7	311.4	317.5	330.3	351.7	384.4	428.5	487.6	572.8	693.2	838.6
125°	332.5	334.8	341.8	354.6	376.7	409.5	453.2	507.3	580.1	681.8	808.3
127.5°	351.8	355.2	363.7	376.6	400.9	433.5	475.2	523.7	588.9	674.8	781.2
130°	363.9	367.3	377.6	391.5	415.8	448.1	488.5	534.7	594.9	670.2	766.3
132.5°	372.8	377.2	388.6	405.3	429.7	460.9	500.0	544.9	599.0	667.4	752.2
135°	389.0	393.5	406.2	423.5	447.8	479.7	516.9	557.5	605.1	663.2	733.6
137.5°	404.2	409.0	421.5	440.0	464.1	493.4	528.7	567.0	609.0	658.4	717.4
140°	414.1	419.9	431.5	450.1	473.3	502.5	536.5	571.7	611.5	656.0	707.5
142.5°	425.2	430.0	442.5	459.1	482.3	509.5	542.3	576.3	613.1	652.6	698.4
145°	443.1	446.5	456.9	474.2	493.8	520.5	550.7	582.1	614.6	649.5	687.5
147.5°	460.8	462.9	473.1	488.2	507.3	530.0	557.7	585.8	614.6	645.1	677.1
150°	472.9	474.0	483.3	498.4	514.7	535.6	562.3	586.7	614.6	641.3	670.4
152.5°	485.0	485.2	494.5	507.7	522.1	542.1	565.1	588.6	611.8	636.7	663.0
155°	503.1	503.1	510.1	521.7	534.4	550.7	570.5	589.1	608.8	628.6	651.8
157.5°	517.5	518.4	524.0	534.2	545.1	557.7	573.5	590.2	604.9	621.4	639.2
160°	528.6	528.6	533.3	542.6	550.7	562.3	576.3	590.2	603.0	615.8	630.9
162.5°	537.0	537.0	540.7	548.2	555.4	565.1	577.2	589.3	599.3	610.2	622.5
165°	549.6	548.4	550.7	556.5	561.2	569.3	578.6	586.7	593.7	601.8	611.1
167.5°	559.1	557.7	558.8	563.3	566.5	571.6	578.4	584.9	588.1	593.5	600.2
170°	564.7	562.3	563.5	567.0	569.3	571.6	577.4	582.1	584.4	587.9	593.7
172.5°	568.4	567.0	567.2	569.8	571.2	572.6	577.4	581.2	581.6	583.2	587.2
175°	572.8	571.6	570.5	572.8	572.8	574.0	576.3	578.6	577.4	577.4	579.8
177.5°	574.9	574.0	573.0	574.0	574.0	574.0	574.9	576.7	574.9	574.0	574.9
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0



TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	72.2	76.0	79.7	82.5	83.3	84.5	85.8	86.6
90°	88.7	93.4	98.1	102.7	102.6	104.8	107.0	106.8
92.5°	154.4	137.6	132.0	128.1	127.0	124.5	126.6	125.4
95°	470.8	339.2	280.9	241.2	220.1	210.7	203.6	200.0
97.5°	1091.6	887.2	740.4	603.5	518.8	467.5	437.2	428.2
100°	1416.4	1325.3	1192.3	1029.4	913.0	829.3	785.0	787.2
102.5°	1522.7	1522.6	1446.3	1343.7	1253.4	1187.3	1150.5	1124.8
105°	1551.1	1670.2	1695.2	1666.9	1614.4	1571.2	1534.9	1530.1
107.5°	1456.1	1647.5	1752.1	1795.3	1797.1	1783.2	1771.5	1761.8
110°	1366.7	1583.2	1732.2	1815.3	1848.7	1858.8	1857.3	1855.8





TEST NUMBER: P331906

CATALOG NUMBER: S123DIP-S340D1195U835-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1277.8	1498.9	1665.5	1771.9	1832.3	1862.0	1871.7	1873.1
115°	1160.1	1364.8	1538.1	1666.4	1754.3	1806.3	1830.3	1837.0
117.5°	1073.9	1250.9	1406.7	1536.8	1628.5	1687.9	1722.1	1730.8
120°	1028.2	1187.4	1329.2	1448.1	1540.6	1606.4	1635.0	1642.7
122.5°	991.7	1136.0	1267.5	1378.0	1460.3	1519.6	1551.0	1560.5
125°	942.9	1071.7	1185.5	1279.9	1354.9	1406.8	1436.6	1445.4
127.5°	899.9	1014.9	1117.6	1203.5	1270.5	1314.8	1341.8	1349.9
130°	872.8	979.3	1075.4	1155.7	1217.9	1260.3	1285.4	1295.3
132.5°	847.5	945.6	1035.1	1111.7	1170.2	1212.8	1235.1	1242.3
135°	813.3	897.7	975.1	1042.5	1099.9	1135.3	1156.7	1165.4
137.5°	782.0	851.3	918.0	976.5	1024.9	1060.7	1078.9	1084.7
140°	763.7	824.5	881.8	932.8	977.4	1010.5	1029.6	1029.0
142.5°	746.0	798.3	848.0	892.4	930.6	959.9	977.2	976.5
145°	725.5	764.7	802.7	837.0	866.4	891.3	901.0	903.7
147.5°	708.8	739.4	769.7	793.9	816.4	833.2	842.4	843.7
150°	697.1	723.8	748.2	770.4	788.0	801.0	808.2	808.4
152.5°	686.9	709.9	731.5	749.9	763.6	775.5	779.7	779.8
155°	671.5	690.1	707.6	721.5	732.0	741.3	743.6	744.7
157.5°	655.3	670.9	684.3	695.2	704.3	711.3	713.1	712.9
160°	646.0	658.8	670.4	678.5	686.7	693.6	693.6	692.5
162.5°	634.8	645.8	656.4	663.6	669.0	675.0	675.0	673.9
165°	620.4	627.4	635.5	641.3	646.0	650.6	649.5	649.5
167.5°	607.9	613.2	617.9	622.1	624.1	627.4	626.2	626.2
170°	599.5	603.0	607.6	610.0	611.1	613.5	612.3	612.3
172.5°	592.1	594.6	598.4	599.7	600.0	602.3	600.2	599.3
175°	582.1	583.2	585.6	585.6	585.6	586.7	585.6	584.4
177.5°	575.8	576.7	577.7	577.7	576.7	577.7	575.8	575.8
180°	574.0	574.0	574.0	574.0	574.0	574.0	574.0	574.0

(END OF REPORT)